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NEWS 22 Jun 06 PASCAL enhanced with additional data
NEWS 23 Jun 20 2003 edition of the FSTA Thesaurus is now available
NEWS 24 Jun 25 HSDB has been reloaded
NEWS 25 Jul 16 Data from 1960-1976 added to RDISCLOSURE
NEWS 26 Jul 21 Identification of STN records implemented
NEWS 27 Jul 21 Polymer class term count added to REGISTRY
NEWS 28 Jul 22 INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
NEWS 29 AUG 05 New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
NEWS 30 AUG 13 Field Availability (/FA) field enhanced in BEILSTEIN
NEWS 31 AUG 15 PATDPAFULL: one FREE connect hour, per account, in September 2003
NEWS 32 AUG 15 PCTGEN: one FREE connect hour, per account, in September 2003
NEWS 33 AUG 15 RDISCLOSURE: one FREE connect hour, per account, in September 2003
NEWS 34 AUG 15 TEMA: one FREE connect hour, per account, in September 2003
NEWS 35 AUG 18 Data available for download as a PDF in RDISCLOSURE
NEWS 36 AUG 18 Simultaneous left and right truncation added to PASCAL
NEWS 37 AUG 18 FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation

NEWS 38 AUG 18 Simultaneous left and right truncation added to ANABSTR

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=> s retroelement?
L1 1019 RETROELEMENT?

=> s 11 and plant?
I-2 375 I-1 AND PLANT?

=> s 12 and reverse transcriptase

=> s 13 and athila

```
=> dup rem l4
PROCESSING COMPLETED FOR L4
L5          3 DUP REM L4 (0 DUPLICATES REMOVED)
```

=> d 1-3 ti

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
TI Nucleic acids related to **plant retroelements** and
Athilla retroelements from *Arabidopsis thaliana*

L5 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Athila4 of Arabidopsis and Calypso of soybean define a lineage of
endogenous plant retroviruses.

L5 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Envelope-class retrovirus-like elements are widespread, transcribed and spliced, and insertionally polymorphic in **plants**.

=> d 1-3 ti

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
TI Nucleic acids related to **plant retroelements** and **Athilla retroelements** from *Arabidopsis thaliana*

L5 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Athila4 of *Arabidopsis* and Calypso of soybean define a lineage of endogenous **plant retroviruses**.

L5 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Envelope-class retrovirus-like elements are widespread, transcribed and spliced, and insertionally polymorphic in **plants**.

=> d 1-3 ab

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
AB The invention provides a family of **plant retrovirus** elements as well as nucleic acids, vectors, and polypeptides relating to those **retroelements**. More particularly, the invention provides nucleic acids of **retroelements** from distinct **Athila** families from *Arabidopsis thaliana*, designated Athila4-Athila9. Athila4 **retroelements** were cloned and sequences from *Arabidopsis thaliana* and consensus **retroelement** were constructed.

L5 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AB The **Athila retroelements** of *Arabidopsis thaliana* encode a putative envelope gene, suggesting that they are infectious retroviruses. Because most insertions are highly degenerate, we undertook a comprehensive analysis of the *A. thaliana* genome sequence to discern their conserved features. One family (Athila4) was identified whose members are largely intact and share >94% nucleotide identity. As a basis for comparison, related elements (the Calypso elements) were characterized from soybean. Consensus Calypso and Athila4 elements are 12-14 kb in length and have long terminal repeats of 1.3-1.8 kb. Gag and Pol are encoded on a single open reading frame (ORF) of 1801 (Calypso) and 1911 (Athila4) amino acids. Following the Gag-Pol ORF are noncoding regions of apprx0.7 and 2 kb, which, respectively, flank the env-like gene. The env-like ORF begins with a putative splice acceptor site and encodes a protein with a predicted central transmembrane domain, similar to retroviral env genes. RNA of **Athila** elements was detected in an *A. thaliana* strain with decreased DNA methylation (ddml). Additionally, a PCR survey identified related reverse transcriptases in diverse angiosperm genomes. Their ubiquitous nature and the potential for horizontal transfer by infection implicates these endogenous retroviruses as important vehicles for **plant** genome evolution.

L5 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AB Retrotransposons and retroviruses share similar intracellular life cycles and major encoded proteins, but retrotransposons lack the envelope (env) critical for infectivity. Retrotransposons are ubiquitous and abundant in **plants** and active retroviruses are known in animals. Although a few env-containing **retroelements**, gypsy-like **Athila**, Cyclops, and Calypso and copia-like SIRE-1, have been identified in **plants**, the general presence and functionality of the domain remains unclear. We show here that env-class elements are present throughout the flowering **plants** and are widely transcribed.

Within the grasses, we show the transcription of the env domain itself for Bagy-2 and related retrotransposons, all members of the *Athila* group. Furthermore, Bagy-2 transcripts undergo splicing to generate a subgenomic env product as do those of retroviruses. Transcription and the polymorphism of their insertion sites in closely related barley cultivars suggests that at least some are propagationally active. The putative ENV polypeptides of Bagy-2 and rice Rify-2 contain predicted leucine zipper and transmembrane domains typical of retroviral ENVs. These findings raise the prospect of active retroviral agents among the plants.

=> d 1-3 so

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
SO PCT Int. Appl., 161 pp.
CODEN: PIXXD2

L5 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
SO Genome Research, (January, 2002) Vol. 12, No. 1, pp. 122-131.
<http://www.genome.org/>. print.
ISSN: 1088-9051.

L5 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
SO Genome Research, (December, 2001) Vol. 11, No. 12, pp. 2041-2049.
<http://www.genome.org/>. print.
ISSN: 1088-9051.

=> d pi

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2003050259	A2	20030619	WO 2002-US39397	20021210	
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

=> d 2-3 au

L5 ANSWER 2 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AU Wright, David A.; Voytas, Daniel F. (1)

L5 ANSWER 3 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
AU Vicent, Carlos M.; Kalendar, Ruslan; Schulman, Alan H. (1)

=> s 13 and calypso?

L6 2 L3 AND CALYPSO?

=> d 1-2 t
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ABS ----- AB
ALL ----- AN, DN, TI, AU, CS, PI, SO, NTE, DT, FS, LA, SL, AB,
NCL, CC, BC, IT (CT, ST), CO, NA, GT, ORGN, RN, CN, GEN
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CBIB ----- AN, compressed bibliographic information
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IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IIND ----- IND, indented with text labels
IND ----- NCL, CC, BC, IT (CT, ST), CO, NA, GT, ORGN, RN, CN, GEN
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L6 ANSWER 1 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Athila4 of Arabidopsis and Calypso of soybean define a lineage
of endogenous plant retroviruses.

L6 ANSWER 2 OF 2 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Envelope-class retrovirus-like elements are widespread, transcribed and
spliced, and insertionally polymorphic in plants.

=> s ((wright, d?) or (wright d?))/au
L7 4966 ((WRIGHT, D?) OR (WRIGHT D?))/AU

=> s l7 and retroelement
L8 1 L7 AND RETROELEMENT

=> del 18 y

=> s l7 and retroelement?
L8 7 L7 AND RETROELEMENT?

=> dup rem 18
PROCESSING COMPLETED FOR L8
L9 5 DUP REM L8 (2 DUPLICATES REMOVED)

=> d 1-5 tiu
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L9 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
TI Nucleic acids related to plant **retroelements** and Athilla
retroelements from Arabidopsis thaliana

L9 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
TI Athila4 of Arabidopsis and Calypso of soybean define a lineage of
endogenous plant retroviruses

L9 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Plant **retroelements**.

L9 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
TI Retroviruses in plants?

L9 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
TI Tagging chromatin with retrotransposons: target specificity of the
Saccharomyces Ty5 retrotransposon changes with the chromosomal
localization of Sir3p and Sir4p

=> d pi

L9	ANSWER 1 OF 5	CAPLUS	COPYRIGHT 2003	ACS on STN		
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2003050259	A2	20030619	WO 2002-US39397	20021210	
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

=> d 3 pi

L9 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
PI US 6331662 December 18, 2001

=> d 4 so

L9 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
SO Trends in Genetics (2000), 16(4), 151-152
CODEN: TRGEE2; ISSN: 0168-9525

=> d 4 a

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'AAB' IS NOT A VALID FORMAT

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or the STNGUIDE file for information on formats available in
individual files.

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L9 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AB A review with 15 refs. Eukaryotic genomes harbor mobile genetic elements known as long terminal repeat (LTR) retrotransposons. LTR retrotransposons are closely related to the infectious and endogenous retroviruses, and they are collectively referred to as LTR retroelements. This review discusses the possibility of these elements being retroviruses, and their possible use as plant cloning vectors, and also how these putative retroviruses contribute naturally to interspecies gene flow.

=>
=> dis his

(FILE 'HOME' ENTERED AT 15:19:21 ON 19 AUG 2003)

FILE 'AGRICOLA, CAPLUS, BIOSIS' ENTERED AT 15:19:31 ON 19 AUG 2003

L1 1019 S RETROELEMENT?
L2 375 S L1 AND PLANT?
L3 138 S L2 AND REVERSE TRANSCRIPTASE
L4 3 S L3 AND ATHILA
L5 3 DUP REM L4. (0 DUPLICATES REMOVED)
L6 2 S L3 AND CALYPSO?
L7 4966 S ((WRIGHT, D?) OR (WRIGHT D?))/AU
L8 7 S L7 AND RETROELEMENT?
L9 5 DUP REM L8 (2 DUPLICATES REMOVED)

=> s ((voytas d?) or (voytas, d?))/au
L10 115 ((VOYTAS D?) OR (VOYTAS, D?))/AU

=> s l10 and retroelement?
L11 22 L10 AND RETROELEMENT?

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12 13 DUP REM L11 (9 DUPLICATES REMOVED)

=> d 1-13 ti

L12 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN
TI Nucleic acids related to plant retroelements and Athilla retroelements from *Arabidopsis thaliana*

L12 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
TI The soybean retroelement SIRE1 uses stop codon suppression to express its envelope-like protein

L12 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
TI Genes of the Pseudoviridae (Ty1/copia retrotransposons)

L12 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 3
TI Athila4 of *Arabidopsis* and Calypso of soybean define a lineage of endogenous plant retroviruses

L12 ANSWER 5 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
TI Plant retroelements.

L12 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 4
TI Expression and processing of proteins encoded by the *Saccharomyces*

L12 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN

TI Retroviruses in plants?

L12 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 5

TI Tagging chromatin with retrotransposons: target specificity of the *Saccharomyces* Ty5 retrotransposon changes with the chromosomal localization of Sir3p and Sir4p

L12 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 6

TI The yeast retrotransposon Ty5 uses the anticodon stem-loop of the initiator methionine tRNA as a primer for reverse transcription

L12 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 7

TI cDNA of the yeast retrotransposon Ty5 preferentially recombines with substrates in silent chromatin

L12 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 8

TI High frequency cDNA recombination of the *Saccharomyces* retrotransposon Ty5: the LTR mediates formation of tandem elements

L12 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN

TI **Retroelements** in genome organization

L12 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 9

TI Multiple molecular determinants for retrotransposition in a primer tRNA

=> d 2 so

L12 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1

SO EMBO Reports (2003), 4(3), 274-277

CODEN: ERMEAX; ISSN: 1469-221X

=> d 2 ab

L12 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1

AB The soybean SIRE1 family of Ty1/copia retrotransposons encodes an envelope-like gene (env-like). We analyzed the DNA sequences of nine SIRE1 insertions and obsd. that the gag/pol and env-like genes are in the same reading frame and sep'd. by a single UAG stop codon. The six nucleotides immediately downstream of the stop codon conform to a degenerate nucleotide motif, CARYYA, which is sufficient to facilitate stop codon suppression in tobacco mosaic virus. In vivo stop codon suppression assays indicate that SIRE1 sequences confer leakiness to the UAG stop codon at an efficiency of 5%. These data suggest that SIRE1 retro-elements use translational suppression to express their envelope-like protein; this is in contrast with all characterized retroviruses, which express the envelope protein from a spliced genomic mRNA.

=> d 3 ab

L12 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2

AB A comprehensive survey of the Pseudoviridae (Ty1/copia) retroelement family was conducted using the GenBank sequence database and completed genome sequences of several model organisms. Plant genomes were the most abundant sources of Pseudoviridae, with the *Arabidopsis thaliana* genome having 276 distinct elements. A reverse transcriptase amino acid sequence phylogeny indicated that the Pseudoviridae comprises highly divergent members. Coding sequences for a representative subset of elements were analyzed to identify conserved domains and differences that may underlie functional divergence. With the exception of some fungal elements (e.g., Ty1), most Pseudoviridae encode

Gag and Pol on a single open reading frame. In addn. to the nearly ubiquitous RNA-binding motif of nucleocapsid, three new conserved domains were identified in Gag. Pol-encoded aspartic protease was similar to the retroviral enzyme and could be mapped onto the HIV-1 structure. Pol was highly conserved throughout the family. The greatest divergence among Pol sequences was seen in the C-terminus of integrase (IN). We defined a large motif (GKGY) after the IN catalytic domain that is unique to the Pseudoviridae. Addnl., the extreme C-terminus of IN is rich in simple sequence motifs. A distinct lineage of Pseudoviridae in plants have envlike genes. This lineage has undergone a large expansion of Gag characterized by an .alpha.-helix-rich domain contg. coiled-coil motifs. In several elements, this domain is flanked on both sides by RNA-binding domains. We propose that this monophyletic lineage defines a new Pseudoviridae genus, herein referred to as the Agrovirus.

=> d 3 so

L12 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 2
SO Molecular Biology and Evolution (2002), 19(11), 1832-1845
CODEN: MBEVEO; ISSN: 0737-4038

=> d 12 ab

L12 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN
AB A review with 9 refs. on **retroelements** in maize, *Arabidopsis thaliana* and *Saccharomyces cerevisiae* genomes.

=> d 12 so

L12 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2003 ACS on STN
SO Science (Washington, D. C.) (1996), 274(5288), 737-738
CODEN: SCIEAS; ISSN: 0036-8075

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Terms	Documents
-----------------------	---------------------------

14 and (gag or pol or env)	16
----------------------------	----

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- [EPO Abstracts Database](#)
- [Derwent World Patents Index](#)
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result set*DB=USPT; PLUR=YES; OP=ADJ*

<u>L5</u>	14 and (gag or pol or env)	16	<u>L5</u>
<u>L4</u>	13 and reverse transcriptase	27	<u>L4</u>
<u>L3</u>	11 and plant	34	<u>L3</u>
<u>L2</u>	L1 and plnat	0	<u>L2</u>
<u>L1</u>	retroelement	53	<u>L1</u>

END OF SEARCH HISTORY